

Integrating Transaction Cost Theory with Trust and Commitment in Agricultural Supply Chains

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Abstract

The current population is approximately 7 billion and is expected to grow to 9 billion by mid of this year 2050. It calls for increased and effective mechanisms of agriculture that will feed the growing population, particularly those in developing countries. A large number of farms, identified as more than 80 per cent of the world's farms, are an important source of food, resilience, and income for the world's population. However, these farmers bear some challenges, including higher transaction costs, thorny market access, modernisation and pandemic impacts. Small farmers must seek increased productivity and efficiency as a way of improving profits and breaking even; this will also justify the new business strategies required by farmers, especially those in the developing countries market, due to high transaction costs. Two of the most critical factors that have been argued to help in minimising these costs include trust and commitment; however, the impact they have on small farmers has not been the focus of most analytical works. This research aims to bridge this gap in the literature by developing an integrated model that combines trust and commitment theory with transaction cost theory, specifically in the context of small-scale farming in rural areas. This unique framework, based on existing literature, explores how trust and commitment can mitigate transaction costs, improve market entry or continued market presence, and contribute to market sustainability. The research adopts a conceptual research approach to build on existing theory and highlight its practical implications for rural farmers in developing countries, thereby engaging the audience with its real-world relevance. The significant research findings underscore the potential of trust and commitment to not only reduce or eliminate transaction costs but also enhance the flow of information and relationships between small farmers and buyers or suppliers. These findings shed light on the potential for coordinated operations, such as joint procurement of transportation and negotiation of operating expenses, to reduce overall costs and improve market viability. Furthermore, the research emphasises trust as a relationship type that not only minimises transaction costs but also aids in managing uncertainties, including those arising from the COVID-19 pandemic that affects small farmers in remote areas. The study concludes that it is possible to enhance the

financial viability and sustainability of small-scale farmers through an integrated approach based on trust and commitment theory and transaction cost theories. It suggests future studies to measure these relationships and also find ways of enhancing the flow of information in the market, particularly for small farmers. Further, for institutional improvement and long-run sustainability and profitability, it proposes policies to invest in physical capital, strengthen the market information system and engage in collective activities.

Keywords: Transaction Cost, Trust And Commitment, Rural Small Farmer and Market Sustainability.

Introduction

Study Background

By 2050, the global population is projected to reach 9 billion, representing a 25% growth compared to the current population (Khan et al, 2021). As the population grows, the agricultural sector in emerging nations plays a critical role in fostering economic growth by supplying food, raw materials, and job opportunities. Smallholders in developing countries are crucial to global food security. Over 80% of the world's farms, totalling 475 million, operate on less than two hectares of land (Lowder et al., 2014; Fan & Rue, 2020). The difficulties faced by small-scale farmers, who significantly impact the agriculture sector, make it difficult to continue operating and making money. These farmers are essential to maintaining the security of food supply worldwide. In addition to ensuring food security, small-scale farming improves crop diversification, job security, and self-sufficiency, positively impacting the environment, society, culture, and economy directly and indirectly (Dhillon & Moncur, 2023). As per the Food and Agricultural Organisation (FAO) (2017), small farmers are defined as food producers who aspire to double their income and agricultural productivity in order to meet the Sustainable Development Goal (SDG) 2.3 agenda. Furthermore, 40 to 85 per cent of agricultural production is produced by small farmers in Latin America, Asia, and Africa (SDG Report, 2020).

However, the agricultural industry was severely impacted by the movement restrictions and market closures brought on by the pandemic, with small farmers being particularly hard-struck. Furthermore, small farmers have suffered due to the quick transition to modern agriculture. In many countries, their earnings are less than half those of larger farms, and their average productivity is lower than that of large-scale farmers (SDG Report, 2020). As a result, the research advises small farmers to modify their business practices to stay profitable and competitive in marketplaces that are becoming increasingly crowded. It is frequently difficult for small farmers or agricultural businesses to be competitive (Mohd et al., 2019). The high cost of transactions is a major problem for small farmers, particularly those in isolated and interior areas. One of the main obstacles preventing small farmers from accessing profitable markets is transaction costs in agricultural supply chains (Braka et al., 2019). These expenses cover costs for information gathering, contract enforcement, negotiation, and transportation. For small-scale farmers, these expenditures may be unaffordable due to inadequate infrastructure, restricted access to market information, and weak bargaining power (Johnlee et al., 2020; Otegunrin et al., 2019). Exorbitant transaction costs deter investment in the food crop sector and affect small-scale farmers' decisions to work with intermediaries (Meemken & Bellemare, 2019).

In order to lower transaction costs, supply chain players' relationships must be based on trust and commitment. While commitment entails the readiness to make long-term partnership investments and preserve them, trust is the belief in the dependability and integrity of supply chain partners. Trust and commitment encourage collaboration, lessen the need for stringent oversight and enforcement, and make transactions easier (Kwatia et al., 2019; Lee & Fernando, 2015). Trustworthy relationships between buyers and sellers can lower uncertainty and improve the effectiveness of the supply chain. These relationships can result in group efforts, such as shared transportation and collective bargaining, that reduce transaction costs (Musara et al., 2018; Martin et al., 2019). Nevertheless, in cases with insufficient commitment and trust, the expenses associated with conducting transactions may rise due to heightened uncertainties and the necessity for more stringent contract enforcement.

Establishing commitment and trust in supply chains is much more important as it will strengthen the marketing strategy of small farmers (Ramirez et al., 2021). Reducing transaction costs and increasing small-scale farmers' engagement in the supply chain can effectively address these challenges by establishing positive connections among supply chain participants (Johnlee et al., 2020; Piggali et al., 2019). There is little study on the precise implications of trust and commitment on small farmers in developing nations, even though they are generally recognised as crucial for reducing transaction costs. Current research frequently ignores the impact of commitment and trust on transaction costs and market entry (Yuen et al., 2018). By analysing the effects of commitment and trust on small-scale farmers' transaction costs and creating plans to improve their sustainability and profitability within the agricultural supply chain, this paper conceptually aims to close this gap.

Therefore, this paper aims to create a comprehensive and unified framework that analyses the collective impact of trust, commitment, and transaction costs, specifically designed for small-scale farmers in rural regions. This framework should integrate dynamic models to accurately represent relationships' changing characteristics and prioritise enhancing information transmission facilitated by trust and commitment. This new method aims to bridge the gaps and rectify the shortcomings of prior frameworks, enabling a more precise and practical comprehension of how small-scale farmers may enhance their sustainability and market performance by fostering relationships and effectively managing costs.

Problem Identification

The 2008 global food crisis prompted numerous firms to allocate resources towards supporting small-scale farmers' growth and progress. Despite being seen as a key driver of sustainable agriculture (FAO, 2019), the sustainability assessment of small farmers is still in its early stages and has not been fully quantified. Previous research has primarily focused on industrial agriculture, with less attention given to small-scale farmers, particularly small farmers in rural regions (Vian et al., 2020). Despite the small farmers' role and contribution, they are often neglected by development policy and account for most of the world's poor and hungry people (Fan & Rue, 2020). Besides all governmental measures, the economic well-being of many small-scale farmers and the long-term viability of their practices remain uncertain (Hassan et al., 2020). The uncertainties faced by small farmers have affected their ability and inclination to invest in their fields, reducing their earnings (Gneiting & Sonenshine,

2018). The pandemic has exacerbated the situation, with agricultural exports in Malaysia decreasing significantly from March 2020 to December 2020 (Department of Agriculture (DOA), 2020). Moreover, small farmers' sustainability is threatened by their exclusion from market channels due to their inability to stay competitive in the relationship marketing strategy in the market channel (Thomas & Vink, 2020; Braka et al., 2019).

Pandemics complicate farmers' distribution of crops and, therefore, cause the food distribution system to worry about excessive food wastage. According to DOA (2020), these difficulties are further compounded by costs of transactions and marketing, especially for the smallholders, especially those in remote areas such as Sabah, whereby high costs are incurred due to poor infrastructure in accessing the markets (Saudah & Dewi, 2024; Murni et al., 2024)). In line with this, Johnlee et al (2020), note that isolation has implications for the development of relationships and explicate that the latter leads to more fantastic search and information costs because of the scarcity of market information on and partners. In addition, according to Bitzer et al. (2020), the containment measures on COVID-19 reduced mobility and market access in a way that reduced the farmers' livelihoods and resilience even further. This situation has been exacerbated by the appointment of middlemen and the under-adoption of ICT for marketing, which Nurlaela et al (2020), noted. Overcoming these barriers requires extraordinary efforts from the government and better infrastructure developments that improve producers' selling at the farmers' market and minimise food insecurity (Bitzer et al., 2024).

For instance, negotiating the logistics of transporting goods from remote areas can be complex and expensive. Trust and commitment in marketing channels become even more crucial in this context. If small-scale farmers can establish solid and trust-based relationships with buyers and intermediaries, they can reduce the uncertainty and complexity associated with these negotiations (Busch et al., 2024).

This paper aims to address significant gaps in the current body of knowledge. Inadequate theoretical underpinnings have led to a lack of detailed understanding and empirical investigation. Studies by Stringer et al (2012), Martins et al (2019), Shen et al. (2017), and Dunning (2016), have shown inconsistent results regarding the dimensions of trust and commitment in relationships. This inconsistency highlights the need for a thorough investigation into the influence of trust and commitment on transaction costs in relationship building. Additionally, there is a notable lack of studies on the impact of transaction costs on farmers' relationship-building processes, underscoring the need for further investigation (Paluri et al., 2020). Prior research has rarely examined the influence of trust and commitment on transaction cost (Piboonrunroj et al., 2011; Yuen et al., 2018). Hence, this paper examines the impact of small farmers' trust and commitment in relationship marketing concerning transaction costs.

Literature Review

Trust and Commitment Theory

Relationship marketing is essential for the sustainability and market success of small farmers. Wilson's (1995), paradigm classifies relationship marketing research into three tiers: conceptual, model, and process. The conceptual level examines fundamental factors such as trust, commitment, interdependence, interactions, shared values, power dynamics,

adaptation, and mutual satisfaction. These factors are crucial for assessing the effectiveness of a relationship. Although there is a lack of extensive study on establishing precise relationship marketing objectives for small-scale farmers, Sheth and Mittal (1996) customer expectations model offers a promising basis for further investigation. Dwyer, Paul, and Oh (1987), highlight that most marketing methods view buyer-seller transactions as discrete rather than continuous partnerships. This approach is incredibly restrictive for small farmers who rely on enduring, secure relationships. Implementing effective customer relationship management methods improves the quality of relationships by establishing a solid foundation of trust and commitment (Abid et al., 2022). Trust and commitment are essential for small farmers, as they motivate them to invest in their relationships and prioritise long-term advantages over immediate profits. Morgan and Hunt (1994), contend that trust and commitment play a more significant role than power and manipulation in developing good marketing partnerships. Trust between small farmers' buyers and suppliers ensures equitable treatment and dependable transactions.

Additionally, commitment is a shared readiness to engage in the relationship. Increased levels of trust and commitment mitigate the likelihood of exploitation and result in enhanced performance, productivity, and effectiveness. According to Chen, Chen, and Wu (2017), trust and commitment positively impact the quality of relationships. Brown, Crosno, and Tong (2018), examine the interaction between these factors, discovering that whereas commitment can occasionally undermine trust, it can also enhance it. This information applies to small-scale farmers who may encounter varying levels of trust and commitment from their partners. In their study, Malik et al (2019), discovered that trust is vital in promoting commitment in sustainable change situations. They propose establishing trust with partners can result in increased determination and dedication, ultimately improving small farmers' sustainability.

Therefore, trust and commitment theory are essential elements in small farmers' relationship marketing. They play a crucial role in minimizing transaction costs and enhancing market interactions. These components assist small-scale farmers in establishing enduring and solid connections crucial for their economic prosperity and sustainability.

Transaction Cost Theory

From an economist's perspective, transaction costs are crucial in determining whether a firm should manage an operation internally or rely on market transactions. The Coasian approach (1937) and research by Williamson (1993, 2008) and others have highlighted this significance. Transaction costs encompass various expenses such as price determination, contract creation, and establishing long-term conditions. Williamson (2008), identified several factors affecting transaction costs, including environmental uncertainty, bounded rationality, opportunism, asset specificity, small numbers, and risk. Transaction costs can be categorised into different types: information costs incurred before transactions, bargaining costs during transactions, and monitoring costs after transactions (Hobbs, 1996, 1997; Siddique et al., 2018). Schmidt and Wagner (2019), describe these costs as the expenses involved in transferring goods, services, or information between production processes. In transaction cost economics, individual transactions are the primary unit of analysis. Most contract management and dispute resolution activities are handled directly by the involved

parties rather than relying on external enforcement or third-party intermediaries (Thomas & Vink, 2020).

Transaction costs are crucial in shaping market dynamics within agriculture and farming, often presenting challenges for small-scale farmers trying to enter the market (Macharia et al., 2014). Owot et al (2023), noted that in supply chain management, transaction cost attributes in formal companies in developed countries tend to lower costs and improve competitiveness. Given the growing concern about the low income and livelihoods of smallholder farmers in developing countries, engaging in business relationships with better performance outcomes is becoming increasingly critical. Transaction cost theory is highly relevant for small farmer studies as it helps understand the barriers they face in market participation. It is widely recognised in supply chain management and essential for understanding market dynamics. Additionally, it has been applied to marketing models and concepts such as trust and commitment (Piboonrungraj et al., 2011).

The Effect of Small Farmer Trust and Commitment in Relationship Marketing with The Transaction Cost

Building relationships among members is crucial for reducing transaction costs. Braka et al. (2019) highlighted that farmers benefit from increased bargaining power and improved profitability through better market information systems. Akbar and Ahsan (2020) emphasised that long-term relationships reduce opportunism and monitoring costs, underscoring the importance of transaction costs in party dynamics. Shahzad et al. (2017) pointed out that the maturity of relationships helps minimise transaction costs, with frequent transactions strengthening these connections over time. Um and Kim (2018) observed that longer relationships enhance trust and commitment, allowing small farms to control better production, lower costs (De Roest et al., 2018), and strengthen their market position (FAO, 2020).

Thomas and Vink (2020), demonstrated that effective information exchange between buyers and suppliers enhances channel system performance and reduces transaction costs. This is particularly relevant for small farmers, where fostering trust, commitment, and efficient information exchange with suppliers and buyers is crucial for sustainability. Given this context, researchers must select a framework that aligns with the unique challenges of small-scale farmers. While market model theory and relationship marketing theory are relevant, the transaction cost theory should also play a pivotal role alongside trust and commitment theory. Earlier studies, such as Setyawan et al (2016), illustrate the dynamics between parties through transaction cost theory. Paluri and Mishal (2020), further emphasise the need for a deeper exploration of the interplay of trust, commitment, and transaction costs within relationships.

An integrated framework that combines trust and commitment theory with transaction cost theory, tailored to the unique context of small-scale farmers, is essential. Additionally, dynamic relationship models that illustrate the evolution and maturity of relationships over time and their impact on transaction costs are necessary. Developing context-specific metrics to measure trust, commitment, and transaction costs within small-scale farming contexts is also crucial. Furthermore, tools to analyse and optimise the flow of market information facilitated by trust-based relationships, focusing on small-scale farmers, are needed.

Conclusion

Prior research (Cai & Ma, 2015; Shahzad et al., 2017; Um & Kim, 2018; Akbar & Ahsan, 2020) has consistently demonstrated the potential of trust and commitment in reducing transaction costs among market channel members. Establishing trust-based relationships with buyers offers several advantages to small farmers, particularly in uncertain situations. Trust and commitment might create an environment where small farmers can confidently market their crops despite uncertainty. One of the critical benefits of trust and commitment is that it ensures buyers make decisions considering small farmers' well-being. This mutual relationship encourages buyers to share relevant market information, helping suppliers reduce their information search costs. For many small farmers, especially those in remote areas with limited internet infrastructure, access to market information is often hampered (Johnlee et al., 2020). However, their relationships with buyers become invaluable during uncertain times, such as the COVID-19 pandemic. Trust and commitment-based relationships between small farmers and buyers will benefit both parties and facilitate vital information flow, particularly in remote or underserved areas (Yusof et al., 2023). This study's conclusions contribute to the growing body of literature that emphasises the role of trust and commitment in supply chain dynamics. Trust and commitment are not just a relational asset but a strategic tool that enhances the efficiency and sustainability of supply chains, making them especially important for small farmers in developing regions. By focusing on the conceptual framework of transaction cost theory, trust, and commitment, this paper underscores the importance of trust in minimising transaction costs and improving overall supply chain performance.

Discussion

The discussion emphasises the crucial significance of trust and commitment theory in reducing transaction costs and improving the sustainability and performance of small-scale farmers, especially in developing regions. By combining results from many studies, it becomes clear that establishing trust-based relationships with buyers can significantly decrease transaction costs in market channels. This has several benefits for small farmers, particularly in unpredictable circumstances. Trust cultivates a stable atmosphere, empowering small-scale farmers to confidently sell their produce, even in the face of unpredictability, and guarantees that purchasers prioritise the welfare of farmers when making decisions. Commitment is essential for sustaining long-term partnerships, as it helps to minimise opportunistic behaviour and the need for constant monitoring, resulting in reduced transaction costs. The practical consequences are significant through partnerships built on trust to improve the exchange of market information, decrease expenses, and guarantee stability amid crises such as the COVID-19 epidemic. This comprehensive strategy also facilitates collaborative endeavours, such as communal transportation and group negotiation, thereby diminishing transaction expenses and enhancing the effectiveness of the supply chain.

This framework is based on the United Nations Sustainable Development Goals (SDGs), particularly SDG 1 (Eradication of Poverty) and SDG 2 (Elimination of Hunger). Trust and commitment can enhance small farmers' economic stability and income, directly contributing to poverty reduction through the reduction of transaction costs and improved market access. In addition, increased market participation and efficiency contribute to a more stable food supply, supporting food security and sustainable agriculture. The discussion

advocates for policy interventions to foster relationship development, enhance market information systems, allocate resources to infrastructure, and endorse collective endeavours. It underscores the importance of trust and commitment in advancing small-scale farmers' long-term viability and financial success. Small farmers can enhance their market involvement and economic well-being by prioritising trust and commitment, which helps them overcome obstacles such as high transaction costs, inadequate infrastructure, and limited market access. This sustains their means of living and contributes to more significant objectives of alleviating poverty and ensuring food security.

Implication

Integrating transaction cost theory with trust and commitment theory thus offers a sound theoretical background for making sense of the challenges of the African agricultural supply chain for smallholder farmers. This integrated approach is essential in that it manages both the monetary and the social relations supply chain structures. Transaction cost theory is discussed by Kwon and Kim (2024), who state that costs related to transactions and economic activities have to be minimised, which depends on the characteristics of asset specificity and opportunistic behaviour.

It has more significance in agricultural supply chain contexts where the small-scale farmers involved in supply are likely to bear high transaction costs because of market risk and little power to bargain. On the other hand, trust and commitment are factors that carry much weight in bringing down these transaction costs. According to Grant (2024), trust is another crucial aspect of supplier relationship management that enriches organisational integrity and reliability. In agricultural cooperatives, trust improves members' dedication, which is essential for the existence and performance of the cooperative, as shown by (Hao et al., 2024). When analysing the nature of the supply chains in agriculture, the combination of transaction cost theory with trust and commitment theory provides essential insights into the role of commitment in overcoming various transaction-specific costs. In addition to the above, this can lead to a better identification of the optimisation strategies and policies facilitating the enhancement of sustainability and competitiveness for small-scale farmers.

Based on prior studies, small farmers in rural areas can develop trustworthy relations with customers and suppliers so they can reduce transaction costs and improve access to markets (Yusof et al., 2023). This includes promoting ideas and plans that will facilitate the building of regular and sound business relationships with other supply chain participants. Besides, enhancements of the market information systems, as well as increasing investment in infrastructures in remote areas, can significantly reduce the cost of seeking information and the problems of logistics. Another category is the coordination of pooled activities such as transportation and bargaining, where chances of transactional costs may be minimised. Prioritising such practical steps, those involved in the process will be able to make significant changes to the financial viability and market successes of small-scale agricultural producers to secure their long-term sustainability and profitability. Hence, these insights are relevant for policy interventions that support the production, processing, and marketing of sustainable, profitable and competitive systems that eventually build better and resilient livelihoods in agricultural supply chains.

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